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U. S. COAST AND GEODETIC SURVEY.

Henry S. Pritchett, Superintendent

State: Texas

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 2374

LOCALITY:

Aransas Pass,
Texas

1899.

CHIEF OF PARTY:

P. A. Welker, Assistant.

2374

Write me at: Steamer "Pache", Claiborne, Talbot County, Md.

Telegraph me at:

My Express Office is:

U. S. COAST AND GEODETIC SURVEY,

St. Michaels, Md.

Oct. 31st, 1899

2-547

Dr. Henry S. Pritchett
Superintendent U. S. Coast & G. Survey.
Washington D.C.

Sir:-

In obedience to "Instructions and Memoranda for Descriptive Reports, 1887," I beg leave to submit the following report of Hydrographic Sheet No. 2374.

The work consists of a hydrographic survey of Aransas Pass, Texas, which lies between latitudes $27^{\circ} 50'$ and $27^{\circ} 51'$ north and longitudes $97^{\circ} 02'$ and $97^{\circ} 04'$ west. It is the outlet for Aransas Bay and is used both for refuge and commerce by vessels of from 20 to 80 tons of light draught.

A good anchorage ranging from $\frac{1}{8}$ to $\frac{1}{4}$ mile in width and about $1\frac{1}{4}$ miles long is to be had inside the pass, between Leydia Anne Island, Mustang Island, St. Joseph's Island, and Harbor Island. Batton is good holding ground and anchorage is perfectly land locked. The carrying trade is all by sailing craft, the

number averaging about 12 per month and of an average size of 40 tons each. The largest vessel trading regularly through the pass is the A. J. Perkins, a schooner of 81.9 tons gross.

The land from seaward presents no distinctive marks, which would aid the navigator. The town of Tarpon does not show well from seaward as it merges into the sand dunes and all present an unbroken ridge.

Aransas Light House on Harbor Island and the Tarpon Club House, on St. Joseph's Island are the prominent objects seen from seaward.

There is but one Life Saving Station at Tarpon. The entrance is marked by a sea buoy marked ARANSAS and by a jetty showing well above water.

Pilots are to be had at Tarpon and are generally taken. The rates \$4.00 per foot draught, are compulsory. It is customary to anchor outside the bar near the sea buoy and wait for pilot. Strangers should not attempt to cross the bar without pilot.

There are no tow boats.

The best anchorage is in the bay, abreast the light house, near the St Joseph's shore. Care must be taken, however, to anchor above the middle ground which makes out from St. Joseph's Island, near the Tarpon Club-House. There are no harbor rules, dues, or police.

Quarantine rules are issued each year by the Governor of the State and printed copies may be had by asking for same. An entering vessel may not pass the bar before receiving Pratique. There are no quarantine fees.

Ship chandler's stores may be obtained in very limited quantities at Tarpon or Rockport. Fresh water may be obtained at Tarpon in limited quantities, but has to be taken on board in small boats in casks. Bituminous and Anthracite coal may be obtained in very limited quantities, but at great expense from Rockport. It must be taken on board in small boats. The nearest machine shops for repair of marine machinery are at Galveston, Texas

The nearest marine hospital is at Corpus Christi, Texas. There is a quarantine hospital on the north end of Harbor Island, but this is only open from May 1st to the middle of October, unless time be extended by the Governor.

There are no docks or marine railways.

The only wharves are at Tarpon and the Tarpon Club House, and these have but 3½ to 4 feet along-side at mean low water.

There is no time ball or hydrographic office. Storm and cautionary signals are displayed at the Life Saving Station at Tarpon. There is no station for reporting vessels.

There are no steamers trading through the pass. The railroad terminus is at Rockport, 13 miles from Tarpon.

Tarpon is the nearest post office at present, although another will be established at the Tarpon Club House on St. Joseph's Island. Mails arrive and depart daily when weather is fit for the sailboat that carries the mail to run. Telegrams may be sent by telephone to

Rockport and thence in the regular way to any part of the world.

The only settlement on the sheet is Tarpon, which is a small town on Mustang Island, at the turn in the pass. The sailboat that carries the mail is the only regular means for transportation between the town and the mainland.

There is no custom house, but the captain of the Life Saving Station is a customs official.

During the winter season the dangerous winds are the northerns, which are very severe. The prevailing winds during the summer months are south easterly.

There is no danger to be apprehended to anchorage as there seldom any sea, the anchorage being land-locked.

Fogs are common during the change of seasons viz February and March and October and November, and are more frequent with easterly winds viz northeast to southeast. Westerly winds clear the fog away.

Wrecks are not frequent, they hold together very well, generally lasting through the storm in which they are wrecked. They then sand very quickly and gradually go to pieces. It is safer to stay by the vessel when grounded than to take to small boats if the vessel is at all staunch.

In approaching this entrance in thick weather the lead may be depended upon, as the bottom shoals gradually with no outlying dangerous shoals. Care must be taken to avoid the submerged apron of the jetty which extends $\frac{1}{4}$ mile to seaward beyond the land that shows above water.

A number of attempts have been made to increase the depth of water at Transas Pass, by the construction of jetties at the entrance. On account of the lack of available funds none of these jetties were completed. Two attempts were made on the south side of the entrance, where the Mansfield jetty and the Nelson jetty were partially completed. In 1895 the Transas Harbor Company partially constructed

a jitty in the shape of a letter S on the north side of the entrance. The latter jitty in its unfinished condition is still in existence and since its construction there has been a marked increase in the depth of the water on the bar. The present channel crosses the Mansfield jitty, portions of which are still in existence. An attempt was made to remove this by the explosion of dynamite, with the result that the rocks were scattered over considerable area and without doubt they prevent the current from scouring the bottom to its full capacity. A small piece of the Mansfield jitty can be seen at low tide at the locality where it crosses the old swash channel.

The Nelson jitty has entirely disappeared with the exception of a piece of the wall along the south shore of the pass.

It is my opinion that by the completion of the present jitty and the clearing away of the rocks at the entrance that a channel of at least 20 feet in depth would soon be scoured.

During the short season while engaged in this work the opportunities for obtaining current observations were few, but the indications are that the prevailing currents during the winter months are from the northward. Upon one occasion while making observations outside of the jetties, during calm weather and with a strong tide running into the entrance, a pole weighted so as to float vertically, with its end ten feet below the surface, was carried with considerable velocity to the southward.

That the resultant current is from the northward is shown by the lengthening in former years of St Joseph's Island on the south end by the accumulation of sand carried from the north, and by the washing away of Mustang Island on the north end. The present jetty acting as a barrier for the sand from the north, prevents St Joseph's Island from growing to the southward, but now causes it to grow out to sea, to the east, in other words, the island is broadening. The rock wall of the Nelson jetty prevents Mustang Island from further washing away.

The entrance being very narrow, the current scours very close to the south side of the jetty and in winter, the northerly current being deflected, scours close to the north side, the tendency being to undermine the jetty. As the sand in summer is liable to pile on the north side and the scouring is taking place on the south side, the tendency is to cause the jetty to undermine mostly on that side and to fall to the southward.

The space between the inner end of the jetty and St Joseph's Island is liable to catch sand and form a bar at that place.

During the heavy norther of Feb. 9th to 13th water rushed through the pass with great velocity and scoured away the sand in the vicinity of the Wreck "Merry", deepening the water in that locality as much as four feet. Other localities in the pass showed no appreciable change in depth.

A bar is forming at the north east end of Mustang Island by southerly winds and the eddy formed by the current

of the pass, but this bar is apt to grow to the southward and eastward, the strong current having scouring effect enough to keep the channel open. It would be an advantage to have a short jetty on the south side to prevent the sand from entering the pass during heavy southerly winds.

The resultant current being from the northward, the jetty is of such a construction that this current would pass inside of the end of the jetty increasing the force of the current flowing out over the bar. This would be the result at ebb tide - On account of this same opening at flood tide, nearly the entire tidal prism would enter the pass and consequently the current would not run through the pass so rapidly and the tendency for depositing sand on the inside would not be so great.

The result of the survey show that there is a narrow crooked channel of about 15 feet into the pass. On account of its narrowness it is not safe for a vessel

of more than 150 feet in length or 11 feet draught to enter. Extreme care would be necessary for such a vessel and the time must be when there is little swell on the bar. The Steamer Bache, 147 feet long, entered drawing 10 ft. 2 inches and passed out drawing 9 ft. 6 inches.

Very respectfully yours,

P. A. Welker,

Ast. CG Survey

Comdg.